An AC voltage is applied to the primary coil T1 of the high voltage transformer HVT according to the alternate driving of the first and second field effect transistors FET1 and FET2. Accordingly, A high AC voltage in proportion to a winging ratio is induced in the secondary coil T2 of the high voltage transformer HVT, and an AC voltage increased by a high voltage capacitor HVC and a high voltage diode HVD which are connected to the secondary coil T2 is applied to the magnetron MGT. Therefore, the magnetron MGT generates a microwave based on the supplied power.

In the meantime, a driving circuit is equipped with a switching unit mounted to switch on and off the power supply to the pulse driving unit VFC1 according to the openings and closings of a cook chamber door(not shown).

The switching unit has the door sensing switch DSW and the primary interlock switch PSW. Preferably, the switching unit includes the secondary interlock switch SSW.

The door sensing switch DSW is mounted to directly or indirectly switch on and off the voltage supply passageways to a voltage input terminal of the pulse driving unit based on the interference of the cooking chamber room according to the opening and closing states of the cooking chamber door. The door sensing switch DSW is mounted in order for general micro switches to intervene in the opening and closing of the cooking chamber door.

An exciting coil ICO is connected to the ground terminal through a switching transistor 41 under the switching controls of a microcomputer 40.

A voltage regulator 30 is connected to the DC power supply DC to supply a voltage required for the voltage input terminal Vcc of the pulse driving unit VFC. That is, an input terminal of the voltage regulator 30 is connected to the DC power supply DC, and an output

of the same is connected to the voltage terminal Vcc of the pulse driving unit VFC1 through the primary and secondary interlock switches PSW and SSW.

The voltage regulator 30 regulates voltages from a DC voltage of 12V of the DC power supply DC to a DC voltage of 15V necessary for the operations of the pulse driving unit VFC1 and then supplies the regulated voltage to the voltage input terminal of the pulse driving unit VFC1 through the primary interlock switch PSW and the secondary interlock switch SSW. In case that a voltage required in the pulse driving unit VFC and an output voltage of the DC power supply DC are the same, the voltage regulator 30 may be omitted.

The primary interlock switch PSW is connected to the voltage supply passageway to the voltage input terminal of the pulse driving unit VFC1. That is, the primary interlock switch PSW is mounted to be switched on in association with the cooking chamber door if the cooking chamber door of the microwave oven is closed.

The secondary interlock switch SSW is connected in parallel with the primary interlock switch PSW on the voltage supply passageway to the voltage input terminal of the pulse driving unit VFC1, and mounted to control the switching-on and the switching-off according to the states of the door sensing switch DSW. That is, if a switching transistor 41 is turned on by the control of the microcomputer which controls the execution of the cooking functions in the state that the door sensing switch DSW is switched on, the secondary interlock switch SSW is switched on by the conduction of current in the exciting coil ICO.

The first and second monitor switches MSW1 and MSW2 are installed as a switch monitor unit for cutting off the voltage supply to the high voltage transformer HVT of the DC power supply when the cooking chamber door is in an open state.

The first and second monitor switches MSW1 and MSW2 are mounted in parallel with the primary coil T1 of the high voltage transformer HVT.

That is, the first and second monitor switches MSW1 and MSW2 are installed on the positions suitable for turning off the primary coil T1 of the high voltage transformer HVT, so that the switches MSW1 and MSW2 are switched on and off according to the opening and closing operations of the cooking chamber door.

The first and second monitor switches MSW1 and MSW2 are mounted to be associated with the cooking chamber door, to thereby be switched on when the cooking chamber door is opened and switched off when the cooking chamber door is closed. Accordingly, when the door is opened, a voltage supply to the high voltage transformer HVT is suppressed by the first and second monitor switches MSW1 and MSW2, even though the switches DSW and PSW are turned on with malfunctions of the switching unit.

In the meantime, a fuse FUSE1 for protecting components when a large current flows in the state that the first and second monitor switches MSW1 and MSW2 are turned on is mounted in the voltage supply passageway having the monitor switches MSW1 and MSW2 and the DC power supply DC. That is, one ends of the monitor switches MSW1 and MSW2 are connected to the DC power supply DC through the fuse FUSE1, and the other ends thereof are connected between corresponding field effect transistors FET1 and FET2 and the primary coil T1 of the high voltage transformer HVT. Accordingly, the fuse FUSE1 is opened by a large current flowing when a closed circuit is formed as the first and second monitor switches MSW1 and MSW2 are switched on, to thereby prevent the driving of the magnetron MGT.